1188-86 Particular Benefit of Platelet GPIIb/IIIa Blockade and Full Heparin In Patients With Peripheral Vascular Disease Undergoing PTCA

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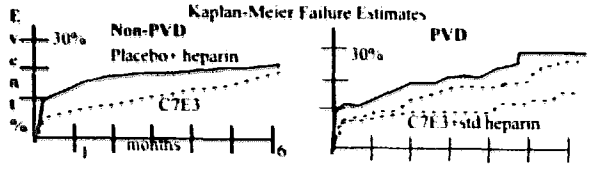
Atherosclerotic vascular disease may clinically manifest as coronary, cerebral, or peripheral disease, but all forms appear to benefit from antiplatelet therapy. We hypothesized that pts with peripheral vascular disease (PVD) who were undergoing coronary angioplasty as part of the EPILOG trial would have a greater treatment effect from abciximab (c7E3) than those w/o PVD. Pts with PVD (n = 305) were older, heavier, more often female, with hypertension, diabetes and prior PTCA. Among PVD pts, those randomized to c7E3 + standard dose heparin (n = 106) had a lower event rate when compared with placebo + heparin (19.9% vs 30.6%, p = 0.05) than c7E3 + low dose heparin (29.0%, p = 0.66). In non-PVD pts (n = 2446) the combined endpoint of death, MI, revascularization at 6 months was 23.5% for pts receiving c7E3 + heparin vs 25% in placebo + heparin (p = 0.08). There was no increase in major bleeding or stroke in PVD pts.



Conclusion: The presence of PVD appears to be a marker of improved benefit from c7E3 + standard dose heparin treatment during coronary intervention.

1188-87 Balloon Angioplasty Versus Debulking for Treatment of Diffuse In-stent Restenosis

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Background: Balloon angioplasty (BA) for *diffuse* in-stent restenosis results in high rates of target vessel revascularization (TVR) possibly related to residual plaque burden. By reducing this plaque burden, debulking might improve clinical outcomes.

Methods: We compared BA alone (n = 30) or debulking by rotational (n = 26) or directional (n = 4) atherectomy + BA in 60 consecutive patients undergoing treatment of diffuse in stent restenosis.

Results: Baseline characteristics were similar by quantitative coronary angiography. Procedural success was 100%, with no complications and no increase in non-Q wave MI, dissection or "no-reflow" in the debulking group. Debulking + BA resulted in significantly lower post-procedure residual stenoses and improved flow rates. Six month follow- up was available for all patients and showed a strong trend towards less TVR with debulking. Independent predictors of repeat TVR were a smaller final minimum luminal diameter (p = 0.007) and longer lesion length (p = 0.006).

	PTCA	Debulking + PTCA	P value
Lesion length (mm)	11.8 ± 8.1	9.4 ± 4.8	NS
Reference vessel (mm)	2.8 ± 0.6	2.6 ± 0.6	NS
Stenosis pre (%)	80.9 ± 13.2	78.7 ± 11.4	NS
Stenosis post (%)	26 ± 13	18 ± 10	0.01
Final frame count	11.4 ± 2.8	8.8 ± 2.4	0.001
One year TVR	46%	28%	0.18

Conclusions: 1.) For treatment of *diffuse* in stent restenosis, debulking + BA is safe and leads to a lower residual stenosis than BA alone. 2.) Since a larger final MLD predicts less TVR, a debulking strategy may be the treatment of choice for diffuse in stent restenosis.

1188-88 Mechanisms and Results of Additional Stent Implantation to Treat Focal In-stent Restenosis

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Focal restenosis within Palmaz-Schatz stents is usually treated with repeat PTCA; using intravascular ultrasound (IVUS), the increase in lumen area has been shown to be a combination of tissue extrusion and additional stent expansion with significant residual neointimal tissue. In an attempt to further reduce the need for subsequent target lesion revascularization, 56 *focal* restenotic stented lesions (21 vein graft, 35 native vessel) in 51 pts were treated with additional Palmaz-Schatz stent implantation. Patterns of focal in-stent restenosis were identified angiographically and confirmed with IVUS: 27 at one of the margins, 19 at the central articulation, and 10 within the body. Angiographic lesion length measured 6.9 ± 1.8 mm. IVUS measurements of stent, lumen, and intimal hyperplasia (IH) areas pre- and post-additional stent implantation were used to assess mechanisms of lumen enlargement.

	Pre	Post	p
Minimum stent area (mm^2)	6.9 ± 1.9	7.7 ± 2.1	0.0001
Minimum lumen area (mm^2)	1.6 ± 0.7	7.5 ± 2.2	0.0001
IH area (mm^2)	5.7 ± 1.8	0.7 ± 0.3	0.0001

Δ IH area measured 5.0 ± 1.7 mm^2 (or 85 ± 11% of Δ lumen area), conversely, Δ stent area measured only 0.9 ± 0.4 mm^2. Residual IH area was 9 ± 2% of final lumen area. Final angiographic diameter stenosis measured 10 ± 12%. Target lesion revascularization at 1 yr was 27%.

We Conclude: In the treatment of *focal* in-stent restenosis, additional stent implantation increased lumen area primarily by neointimal tissue extrusion with surprisingly little additional stent expansion. Although final diameter stenosis (10%) and residual neointimal tissue (9%) were low, TLR at 1 yr was 27%.

1189 Rotational Atherectomy

Wednesday, April 1, 1998, Noon–2:00 p.m.
Georgia World Congress Center, West Exhibit Hall Level
Presentation Hour: Noon–1:00 p.m.

1189-59 Myocardial Infarction After Rotational *Atherectomy: Predictors and Influence on Late* Outcome in the STRATAS Trial

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Elevation of CK-MB occurs frequently after rotational atherectomy (ROTO). STRATAS was a 500 patient randomized comparison of two ROTO strategies. CPK, CK-MB (CKMBR - ratio of normal) and ECGs were prospectively collected and adjudicated by a blinded core laboratory into 3 MI categories: Type 1, CKMBR >1 and <3; Type 2, CKMBR >1 and <3 with ST abnormalities or CKMBR >3 and <8; or, Type 3, Q wave MI or CKMBR >8. Seven patients with emergent CABG or death within 24 hours of the procedure were excluded from analysis. In a multivariate model of CK elevation, only the presence of no reflow, transient abrupt closure, sidebranch occlusion, larger final MLD and moderate to heavy calcium were independent predictors. More aggressive ROTO, age, gender, diabetes and HTN were not predictors. Nine month follow-up is available for 85% of the patients. There was no association of MI and late death (p = 0.34) or a composite of late death, recurrent MI or repeat revascularization (p = 0.64).

Endpoint	No MI	Any MI	Type 1	Type 2	Type 3
n (%)	330 (71)	134 (29)	65 (14)	43 (9)	26 (6)
death	7 (2.1)	5 (3.7)	3 (4.6)	2 (4.6)	0 (0.0)
Composite	117 (35.5)	53 (39.5)	25 (38.5)	15 (34.9)	13 (50)

Conclusion: MI occurs frequently after ROTO and is predicted by angiographic complications, vessel calcification and a larger final MLD. There is no association of MI and late mortality or TVF.

1189-60 The Impact of ReoPro® or Lower Speeds on Platelet Aggregation During Rotational Atherectomy

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Rotational atherectomy is associated with an increased incidence of slow flow and creatine kinase elevation which is reduced by ReoPro, implicating platelet activation as a potential mechanism. This study tests the effects of burr speed or ReoPro on platelet aggregation using an in vitro model. A 2.0 mm Rotablator® burr was rotated in 2.5 mm inner diameter silicone tubing. Heparinized human blood was pumped through the tubing at 10 cc/min, and subjected to ablation speeds of 180,000 rpm, 140,000 rpm and 0 (control). ReoPro (5 μg/ml) was mixed with blood for 5 min, and the test at 180,000 rpm was repeated. The blood was collected and analyzed immediately for the quantity and size of platelet aggregates using an optical